AMENDMENTS TO THE CLAIMS

Please amend claims 1 and 17 such that the status of the claims is as follows:

1. (Currently amended) Method for producing ~~ceramic articles~~ cast metallic gas turbine components having internal cavities and passages with microcircuit dimensions ~~ceramic articles~~, the method comprising the steps of:

a. using a rapid prototyping process to produce a disposable mold having a cavity with microcircuit dimensions which has the shape of [[the]] a desired ceramic article from the group consisting of a mold, a core and a combination core and mold;

b. filling said cavity with microcircuit dimensions with a ceramic slurry of about 70% to about 90% by weight of ~~ultrafine~~ particles having sizes of about 0.1 to 50 microns which includes a liquid carrier;

c. cooling the slurry-filled mold cavity to solidify said slurry;

d. removing said disposable mold; [[and]]

e. removing substantially all of the original liquid carrier from said solidified slurry to produce [[a]] the ceramic article[[.]] ; and

f. casting a metallic gas turbine component with internal cavities and passages with microcircuit dimensions, utilizing the ceramic article.

2. (Original) Method as in Claim 1 wherein said slurry is aqueous based.

3. (Previously presented) Method as in Claim 1 wherein said slurry consists essentially of (by wt.):

a. from about 70% to about 90% by weight of ceramic particles having sizes of about 0.1 to about 50 microns.

b. an amount of at least one cryoprotectant material sufficient to suppress the formation of large crystals during solidification.
c. from about 10% to about 30% of a liquid suspension of at least one colloidal ceramic material,
d. up to about 5% of other additives, and
e. balance essentially water.

4. (Previously presented) Method as in Claim 1 wherein the disposable mold containing features with microcircuit dimensions is made of a material selected from the group consisting of polymers, waxes, plastics and hard particles coated with a material selected from the group consisting of polymers, waxes, plastics and mixtures thereof.

5. (Previously presented) Method as in Claim 1 wherein the disposable mold containing features with microcircuit dimensions is removed prior to the removal of the original liquid carrier.

6. (Previously presented) Method as in Claim 1 wherein the removal of the original liquid carrier is performed prior to the removal of the disposable mold containing features with microcircuit dimensions.

7. (Original) Method as in Claim 1 wherein the original carrier is removed by a process selected from the group consisting of sublimation, vacuum dewatering and combinations thereof.

8. (Previously presented) Method as in Claim 1 wherein the ceramic article is treated by sintering to improve its mechanical properties.

9-16. (Canceled)

17. (Currently amended) Method ~~for producing an integral ceramic core mold~~ for casting metallic gas turbine parts having an external shape and having at least one internal passage with microcircuit dimensions ~~having an internal shape~~, including the steps of:

a. using a rapid prototyping process to produce a disposable pattern whose external shape corresponds to the desired external configuration of the metallic part and an internal passage shape corresponds to the shape of the desired metallic part internal passage with microcircuit dimensions,

b. placing said disposable model in a container,

c. filling said container and said internal cavity with microcircuit dimensions with a ceramic slurry that comprises from about 70% to about 90% by weight ceramic particles having sizes of about 0.1 to about 50 microns,

d. cooling the slurry filled container and cavity with microcircuit dimensions to solidify said slurry,

e. removing said disposable model from said solidified slurry, ~~and~~

f. removing substantially all original liquid carrier from said solidified slurry to create an integral ceramic core mold; and

g. casting a metallic part having at least one internal passage with microcircuit dimensions utilizing the integral ceramic core mold.

18. (Original) Method as in Claim 17 wherein said slurry is aqueous based.

19. (Previously presented) Method as in Claim 17 wherein said slurry consists essentially of (by wt.):

a. from about 70% to about 90% ceramic particles having sizes of about 0.1 to about 50 microns,

b. an amount of at least one cryoprotectant material sufficient to suppress the formation of large crystals during solidification,

c. from about 10% to about 30% of a liquid suspension of at least one colloidal ceramic material,

d. up to about 5% of other additives

e. balance essentially water.

20. (Previously presented) Method as in claim 17 wherein the disposable pattern is made of a material selected from the group consisting of polymers, waxes, plastics and hard particles coated with a material selected from the group consisting of polymers, waxes, plastics and mixtures thereof.

21. (Original) Method as in Claim 17 wherein the disposable pattern is removed prior to the removal of the original liquid carrier.

22. (Previously presented) Method as in Claim 17 wherein the removal of the original liquid carrier is performed prior to the removal of the disposable pattern.

23. (Previously presented) Method as in Claim 17 wherein the removal of the original liquid carrier is performed at a temperature below the solidification point of the ceramic slurry.

24. (Previously presented) Method as in Claim 17 wherein the ceramic article is sintered to improve its mechanical properties.

25. (Previously presented) A method as in claim 17 in which said pattern includes a plurality of channels with microcircuit dimensions which extend through the model and connect the external surface of the model with the internal surface of the model.

26. (Previously presented) Method as in claim 17 in which at least one of said channels with microcircuit dimensions has a complex geometry.

27-28. (Canceled)